

# JACOB BROWN

Brown.Jacob99mt@gmail.com | (406) 570-3047 | GitHub: JacobBrown6908

## EDUCATION

Bachelor of Physical Science – Data Science

Brigham Young University Idaho

Graduation: 2025

Data Science Society

- Vice President
- Project Lead

## SKILLS

Data Management & Organization:

- Python:** PySpark, SQLite, Pandas, Polars, Docker
- R:** dplyr, tidyr, stringr, Tidyverse
- Cloud:** AWS, Google Cloud, Vertex AI, Streamlit Cloud, Data Bricks, Azure
- Data Visualization & Cleaning:** Power BI, Excel, Tableau, Lets-Plot, Plotly, GGPlot, HTML
- Machine Learning:** Python: Scikit-Learn, Neural Networks, XGBoost, Random Forests, Decision Trees

## WORK EXPERIENCE:

AI Tutor Bot Project Lead & Consultant – BYU-Idaho

Jan 2025 — Present

- Improved student learning outcomes across multiple courses by developing AI-driven tutoring solutions.
- Directed cross-functional front-end and back-end teams to deliver a seamless, interactive student-AI engagement platform.

SQL Teaching Assistant – BYU-Idaho

Sep 2024 — Dec 2024

- Taught SQL concepts such as relational database design, JOINS, UNIONS, and subqueries to undergraduate students.
- Supported 400+ students on Python and R projects involving Pandas, Scikit-learn, and data visualization tools.

Data Science Tutor – BYU-Idaho

Sep 2024 — Dec 2024

- Guided students through Python and R projects using Pandas, Scikit-learn, ggplot2, and Lets-Plot.
- Managed daily operations of a high-traffic tutoring center supporting 400+ students across campus.

## PROJECT EXPERIENCE:

Machine Learning Model, MRI Image Recognition (CNN)

Jan 2025 — Present

- Developing a convolutional neural network (CNN) to analyze MRI scans and predict post-traumatic joint conditions (PTJC), aiming to improve diagnostic accuracy through unsupervised learning.
- Preprocessing and augmenting medical imaging datasets using Polars and Pandas to enhance model reliability and reduce false positives.

Machine Learning Model, Facial Recognition (CNN)

Jan 2025 — Present

- Designed and implemented a CNN achieving 80% accuracy in facial recognition across diverse lighting conditions and angles.
- Optimized a data pipeline with Pandas and Polars for efficient preprocessing of 1,700 images; utilized Scikit-learn for targeted augmentation.

Relational Data Base Creation, LindaBrownPottery

Apr 2024 — Dec 2024

- Designed and implemented a SQL-based inventory management system, improving product tracking and operational efficiency.
- Created a dynamic Excel dashboard with VBA automation to visualize sales trends, forecast profitability, and inform strategic decisions.

Statistical Analysis of IBC, Project Lead

Apr 2024 — Jul 2024

- Led a team of four analysts in identifying optimal business locations using advanced statistical techniques in R and Python, driving significant projected revenue growth.
- Built predictive models to recommend efficient team configurations, reducing operational costs while maintaining productivity levels.